Alternative Shelters: Immortalizing the New York City Sidewalk Shed

A Thesis Submitted in Partial Fulfillment of the
Requirements of the Renée Crown University Honors Program at
Syracuse University

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and Renée Crown University Honors
Spring 2020

Honors Thesis in Architecture

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Abstract

In New York City, a sidewalk shed is a type of scaffolding that covers a sidewalk immediately adjacent to a site under construction in order to protect pedestrians from falling debris. There are currently about 9,000 sheds in the entire City, each of which has an average lifespan of about 300 days. In total, all of the sidewalk sheds take up about 1,000,000 feet of space. Anyone who has walked around New York City at any point over the last two decades has most likely seen or walked under at least one of these hunter green, steel and plywood structures. The existence of the sidewalk shed is unwanted but inevitable, and these sheds have now become an integral part of the vernacular architecture within the City.

This architectural thesis suggests that a design intervention on the sidewalk shed may be an opportunity to address the needs of the City's underprivileged population. Through a series of general and site-specific alterations, the sidewalk shed can engage these populations in particular, along with the general public. Using the building code as a set of formal and functional constraints, this design is an intervention that results from loopholes and exceptions within, and even alterations of, the code. An example of such an intervention would be turning the sidewalk sheds into temporary housing for the homeless who would normally sleep on the ground underneath the sidewalk shed. Another intervention would involve editing the code so that sidewalk shed facades are required to serve as a display for public art. In both cases, the sidewalk shed becomes a multifunctional object that enhances the environment and contributes to a new identity for the City.

Executive Summary

A scaffold, or scaffolding, is a temporary structure that is used to assist workers during the building construction process. In New York City, there is a special type of scaffolding that is built over the sidewalk adjacent to a building that is being constructed, demolished, or renovated. With their steel structure and plywood panels, these sidewalk sheds allow construction workers to stand on top of them while pedestrians can walk underneath. As with all forms of scaffolding, these sheds are meant to be temporary, and should be taken down as soon as construction is finished. However, the sidewalk shed has become so common and long-lived that their hunter green facades have practically become a part of the City's identity, right alongside the yellow taxi and the grey skyscraper. This thesis proposes an architectural intervention that allows for further engagement with the community by turning the shed into a comfortable, occupiable space. Following a standard set of alterations with variations based on contextual elements such as architectural style and social conditions, these open, flexible spaces can accommodate any type of program that helps the community in which is it placed; this includes programs such as housing, a waiting room, or a marketplace in which vendors can sell their items. The converted spaces are intended to help the underprivileged populations of New York City, particularly the City's homeless population, many members of which end up taking shelter underneath sidewalk sheds in order to protect themselves from harsh weather conditions.

To make construction and deployment of these converted sheds more efficient, the intervention is designed at the scale of a generic small part, or "module." These modules can be fabricated quickly and connected with one another to create larger spaces. Each module has all of the same components that make up a regular sidewalk shed, with some alterations in order to make the space inhabitable. The original sidewalk shed is made from steel columns that are rooted to the ground with mud sills and metal plates. These metal columns are connected by steel railings and topped by an array of steel I-beams. On top of the I-beams is a horizontal panel of corrugated steel, and on top of that is a horizontal layer of plywood planking. Connected to this plywood planking are some plywood panels that are stood up vertically. Every shed has to have electrical lighting on its underside, where the pedestrians walk through.

The modular design intervention uses all of the same materials as that of the original shed, plus a few additional items that allow for the comfort of the occupants, and most of the same construction techniques. What really makes this intervention different, however, is that there is another layer of I-Beams, corrugated steel, and plywood planking, ten feet above the original layer. This new layer creates a ceiling while the original layer serves as the floor. Walls are made using plywood and two by fours with insulation, so as to protect the occupant from rain, snow, or other harsh weather conditions. The module can have a window that allows for natural light and heat to enter the space. The interior of the module is designed so that inhabitants can exist comfortably, and there is seating underneath the shed that is accessible to the general public. Modules can have "plug-ins," including furniture, electricity, and plumbing, to make them site or context specific. The interior of the module is still elevated, but can be accessed through the main building, or ramps and staircases that connect to the module's exterior.

This thesis upholds the belief that architecture should be open, welcoming, inclusive, accessible, and useful to all people, regardless of income or identity. The residential aspects of this project can help address issues of homelessness in the city, while the public spaces can serve as a means of bringing people together. A modular system also has the advantage of being flexible, meaning that the interior of the space can be used for a variety of purposes. Although a densely populated city such as New York may not have enough space on the ground for more architecture, there is always an opportunity to utilize "vertical space." This project is a contribution to a larger discourse regarding scaffold design; several architects and architecture firms, including Framlab and J. Mayer H. Architects, have made efforts to rethink and repurpose the scaffold as a means of benefiting the communities in which they design.[1] Ultimately, this project advances the argument that scaffolding can be used for more than its original purpose, especially if it's going to stay standing for as long as the sidewalk shed does, and that everyone deserves a comfortable space for all of their needs.

[1] "Schaustelle / J. Mayer H. Architects, " 28 Aug 2013, ArchDaily, https://www.archdaily.com/420787/schaustelle-j-mayer-h-architects.html.

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Acknowledgements

A huge thank you:

To my advisors, Professor Hubeli, Professor Bedard, Professor Chun, and Professor Purser, and my advisory group for their guidance throughout this process,

To all of my professors and teachers,

To my friends and to my fellow architecture students,

To my extended family,

To my parents, who have always helped me in every way that they can,

To my dog,

And to myself, for making it this far.

Introduction

"But at all times the neighborhood lends itself to the affluent and to the unhoused, to the Ph.D. and to the unschooled, on the same sidewalk at the same time." – Mitchell Duneier

In the spring of 2018, a small group of homeless people took shelter underneath the scaffolding at 1441 Broadway in Times Square after a massive rainstorm made its way through New York City. They hung their wet clothes on the steel bracing and slept on unfolded cardboard boxes. This makeshift encampment lasted for a few days before the police officially kicked everyone out.[2] Two years before that, homeless New Yorkers set up a similar camp underneath the scaffolding in NoHo. Residents of NoHo blamed a surge of local construction for the implementation of sheds under which people could hide out.[3] Yet another encampment existed in the Financial District in 2016, underneath a shed that was eight years old at the time.[4]

These are only some of the many examples of New Yorkers using scaffolding as a form of shelter. In New York City, "sidewalk shed" is the vernacular term for a type of scaffolding that covers a sidewalk immediately adjacent to a site in order to protect pedestrians from falling debris during the construction or renovation of that site. The design portion of my thesis contends that the New York City sidewalk shed should engage with and address the needs of the public, particularly the City's underserved population, by becoming an inhabitable architectural

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[2] Lavacca, Katherine and Bruce Golding, "Homeless set up shantytown under Times Square scaffolding," *New York Post*, 25 November 2018, https://nypost.com/2018/11/25/homeless-set-up-shanty-town-under-times-square-scaffolding.html.

[3] Marino, Joe, Gina Daidone, and Bruce Golding, "Vagrants living under scaffolding are turning NoHo into Skid Row, *New York Post*, 6 September 2016, https://nypost.com/2016/09/06/vagrants-living-under-scaffolding-are-turning-noho-into-skid-row.html.

[4] Migdal, Sylvan, "Sidewalk-shed shantytown: Ancient scaffolding hosts homeless in Fidi, *The Villager*, 8 March 2016, https://www.thevillager.com/2016/03/sidewalk-shed-shantytown-ancient-scaffolding-hosts-homeless-in-fidi.html.

feature while still fulfilling its original purpose of protecting pedestrians from active construction sites. This multiple-site series of interventions follows a standard system but has varying "plug-ins" or alterations based on contextual elements such as architectural style and social conditions. As an extension, this essay analyzes the New York City sidewalk shed from a sociological lens by studying the shed's relationship to the general public, particularly the City's homeless population.

Currently, there are more than 9,000 active sidewalk sheds in New York City, each with an average life span of about 300 days. In total, the sheds take up over 1,000,000 linear feet of space.[5] While they are neither desirable nor attractive, one can argue that these sheds have unintentionally become a staple of the New York City identity, particularly over the last four decades.[6] Their steel bracing and hunter green facades may have the same level of iconography as the yellow taxi or the gray skyscraper. Anyone who has walked through the streets of New York City at some point during the last decade or two has most likely seen or walked underneath a sidewalk shed. These sheds are exposed to the general public, and, therefore, can be experienced by any member of the general public. Most often, people simply walk underneath the sheds as they make their way toward a final destination. In less crowded areas, people sit on the steel railing or take shelter underneath the wooden planking. Children may climb up the metal structure, almost as though they are on a playground.

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[5] "Active Sidewalk Shed Permits as of 10/7/2019." NYC DOB | Sidewalk Sheds. https://www1.nyc.gov/assets/buildings/html/sidewalk-shed-map.html.

[6] StreetEasy Team, "Why Is There So Much Scaffolding in NYC?" *One Block Over*, 5 June 2018, https://streeteasy.com/blog/scaffolding-nyc-why-so-much-scaffolding-new-york-city.html.

Unfortunately, the number of homeless encampments that have been established underneath these sidewalk sheds suggests that the homeless population in New York City has unintentionally become the one of the sidewalk shed's primary user groups. It is underneath this shed that they live, sleep, and sometimes even use the bathroom.[7] For those without a roof over their heads, the sidewalk shed can be beneficial as a means of protecting against harsh weather conditions, and even providing some amount of privacy as a result of the shadow created by the looming shed. Homelessness has become a crisis in New York City, and sightings of homeless sleepers are only becoming more routine as the City's population, and the City's homeless population, grows.

The Homelessness Crisis

There are several reasons for which the homeless population in New York City has nearly doubled in the last decade, making it the highest that it has been since the Great Depression. Simply put, there is an increasing demand for a shrinking amount of occupiable space. Modern homelessness in New York City began in the late 1970s following a decrease in the number of single room occupancy units (SROs), as well as the deinstitutionalization of thousands of mental health patients during this time.[8] Single room occupancy units were a form of housing that accommodated one or two people. They were relatively small in size and, as a result, more affordable compared to larger housing options. However, in 1955 the housing code was changed so that conversion or construction of single room occupancy units was no longer allowed. By the

[7] Mueller, Benjamin, "10 Years On, Scaffolding in Harlem is Still a Shelter for Noxious Acts," *The New York Times*, 2 September 2014, https://www.nytimes.com/2014/09/03/nyregion/a-decade-on-a-sidewalk-shed-is-still-an-unwanted-shelter.html.

[8] Coalition for the Homeless. https://www.coalitionforthehomeless.org.html.

1970s, there were only a small number of single room occupancy units left.[9] Since then, rent prices have only gone up, and, with stagnant minimum wages and cutbacks on assistance for low-income families, thousands of New Yorkers today have found themselves unable to afford the City's high cost of living. In November 2019, 63,092 homeless people were recorded to be sleeping in the New York City municipal shelter system every night. Thousands more homeless were suspected to be sleeping on the streets.[10]

Homeless shelters can be a temporary fix for those who need a place to live and sleep for the time being, and today there are more homeless people living in shelters now than ever before. However, many homeless people dislike the shelter for its crowdedness and lack of cleanliness, and many refuse to partake in the shelter system for reasons often relating to autonomy, safety, and even pride. Homeless shelters have rules that can be seen as restrictive. There are curfews, visitation limits, schedules, and restrictions on alcohol, smoking, and outside food. These rules are enforced for safety reasons, but they can feel limiting. Those who live in shelters also dislike the idea of living amongst people that they do not know. People who apply to the shelter system do not have control over the shelter in which they end up. Those who are living on the streets are encouraged to join the shelter system and get help, but these attempts to encourage these rough sleepers can sometimes be unsuccessful.[11] Roy Scott Jr, a homeless man in Harlem, said that he

[9] "Shelter with Dignity," *Framlab*, 2016, https://www.framlab.com/homed.html.
[10] Coalition for the Homeless
[11] "Why would a homeless person not want to go to a shelter?" *BRC*, https://www.brc.org/why-would-homeless-person-not-want-go-shelter.html.

liked the sidewalk shed under which he slept because "the shed allowed him to stay out of homeless shelters. 'It makes me feel like a roof, somewhat, is over my head.'"[12]

Even if a homeless person who does not want to go to a shelter is able to find temporary refuge underneath a sidewalk shed, it is unlikely that they will be able to stay there for long. In almost every major city in the world, poverty is criminalized through both active and passive means. Police are called upon to remove homeless people from public areas and to break up makeshift shantytowns.[13] Anti-loitering and vagrancy laws were passed in the United States about fifty years ago. The trespassing law, which restricts access to places for those who lack a "legitimate purpose," is particularly difficult for those who do not have stable housing. Homeless people cannot obey exclusion laws if they are dependent on the society from which they are being excluded.[14]

Over the last decade, a less direct method of deterring the homeless has revealed itself in the form of "hostile architecture." In 2014, metal studs were placed on the ground in London to prevent homeless people from sleeping in certain areas. Other examples of such anti-homeless structures include benches with armrests in the middle so that people cannot lie down on them, and metal protrusions that keep people from skating on ledges.[15] Many homeless people and general critics of hostile architecture have openly retaliated through protest, while others have learned to navigate the system in more subtle ways. In Vancouver, for example, there is a library

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[12] Mueller, "10 Years On."
[13] "Homeless set up shantytown under Times Square scaffolding,"
[14] Purser, Gretchen, "Banished: The New Social Control in Urban America – By Katherine Beckett and Steve Herbert, ijurr, 2 May 2012, https://doi.org/10.1111/j.1468-2427.2012.01130_2.x.
[15] Petty, James, "The London Spikes Controversy: Homelessness, Urban Securitization and the Question of 'Hostile Architecture," *International Journal for Crime, Justice, and Social Democracy*, 68.

that homeless people go to when it opens. As long as these homeless people appear to be studying or working, they will not be kicked out.[16]

According to the Coalition for the Homeless, stable and long-term housing is a proven solution to the issue of homelessness. "A five-year study tracking around 500 homeless families relocated from shelters to housing, conducted by New York University researchers and published in 1998, found that 80 percent of homeless families placed into subsidized housing remained stably housed (i.e., were still in their initial apartments one year later), and 92 percent were in their own apartments. In contrast, among families who left shelters but did not receive subsidized housing placements, only 18 percent were stably housed, and only 38 percent were in their own apartments."[17] Ironically, the Coalition for the Homeless' headquarters is shrouded by a sidewalk shed, and that shed is also used as a shelter for many homeless folks. This is just one of many examples of attempts at the privatization of public space.[18]

The Original Sidewalk Shed

Homelessness has only been a major issue in New York City since the 1970s, which is a fraction of the City's lifespan, as well as the lifespan of the infamous sidewalk shed. 1898 marked the formation of the modern city of New York.[19] By the 1920s, New York City became

[16] Sharma, Sarah. *In the Meantime: Temporality and Cultural Politics* (Duke University Press, 2014)
[17] Coalition for the Homeless
[18] Cuozzo, Steve, "The irony of the Homeless Coalition's scaffolding," *New York Post*, 8 December 2019, https://nypost.com/2019/12/08/the-irony-of-the-homeless-coalitions-scaffolding.html.
[19] "The 100 Year Anniversary of the Consolidation of the 5 Boroughs into New York City," Centennial Classroom, https://web.archive.org/web/20071011221627/http://nyc.gov/html/nyc100/html/classroom/hist_info/100aniv.html.

the most populous and urbanized area in the world.[20] The first mention of the modern sidewalk shed appeared in 1897, in which a bill was passed to add a "petticoat" to buildings.[21] Today, there are several scaffold manufacturing companies in New York City. One of the oldest of these, York Scaffold, was established in 1928.[22]

In 1979, Barnard College student Grace Gold was killed by falling masonry while she was walking in the Upper West Side. Gold's death resulted in the passage of Local Law 11 one year later. This law requires building owners to get their building facades inspected once every five years if their buildings are taller than six feet.[23] All buildings that needed work were required to have a shed.[24] That same year, Callahan vs. Carey was passed, ordering the city and state to provide shelter to everyone.[25]

Since 2008, there has been an increase in residential and commercial development, resulting in an increase in the number of active sidewalk sheds. From 2018 to 2019, the number of sidewalk sheds in New York City increased by 17%.[26] On average, building construction in the City can take between two to four years. City building officials do not set a specific deadline for owners to make repairs and take down scaffolding.[27] In 2013, the Department of Buildings

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[20] "New York Urbanized Area: Population & Density from 1800 (Provisional)," *Demographia*, http://www.demographia.com/db-nyuza1800.html.
[21] Gray, Christopher, "A Law and the Face of the City" *The New York Times*, 24 April 2014, https://www.nytimes.com/2014/04/27/realestate/a-law-and-the-face-of-the-city.html?module=inline.html.
[22] Dunlap, David, "When Scaffolding Covers a Cityscape," *The New York Times*, 22 September 1996, https://www.nytimes.com/1996/09/22/realestate/when-scaffolding-covers-a-cityscape.html.
[23] "A Law and the Face of the City"
[24] Elstein, Aaron, "Let There Be Light" *Crain's New York Business*, 9-22 July 2018, 18.
[25] Coalition for the Homeless.
[26] "7 On Your Side Investigates: New York City losing control of sidewalk shed spread." *ABC*, New York City, 2017
[27] "Why Is There So Much Scaffolding in NYC?"

issued 5,584 permits for sidewalk sheds.[28] According to the New York City government building code 3307, property owners are required to install a shed for construction on buildings higher than forty feet and demolition of buildings higher than twenty-five feet. Sidewalk sheds are also required for alterations and partial remodeling or demolition. Sidewalk sheds can only be removed once construction, renovation, or demolition is complete.[29] Sidewalks in New York City are the responsibility of the New York City Department of Transportation (NYC DOT) but the Department relies on property owners to maintain 99% of New York City sidewalks.[30]

409 Edgecombe Avenue, located in the Sugar Hill historic district of Harlem, was once home to famous tenants such as W.E.B. Dubois, Thurgood Marshall, and Aaron Douglas. Today, 409 Edgecombe Avenue is home to the oldest sidewalk shed in New York City.[31] The shed was first set up in 2006 and has yet to be taken down. With the length of time for which some of these sidewalk sheds have been up, there has also been an issue with sidewalk sheds collapsing, hurting people, and failing to do their jobs. A new proposed law suggests that the sheds themselves should be inspected regularly by the building department. Building owners would be charged for this extra set of inspections.[32]

Clearly, the aesthetic appeal of the sidewalk shed was also a major issue, because in 2011, as part of a New York City Beautification initiative, the "Urban Umbrella" project was selected as a potential solution to the problem of dense, ugly sidewalk sheds. Literally

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[28] Mueller, "10 Years On."
[29] "Sidewalk Sheds," *NYC Buildings*, https://www1.nyc.gov/site/buildings/safety/sidewalk-sheds.page.html.
[30] NYC DOT, nyc.gov.
[31] "The Oldest Sidewalk Scaffold in New York City Tells All: WNYC: New York Publication Radio, Podcasts, Live Streaming Radio, News." WNYC, 2019 New York Public Radio, 12 April 2018, https://www.wnyc.org/story/visit-oldest-sidewalk-scaffold-new-york-city.html.
[32] "7 On Your Side Investigates."

resembling an open umbrella, this project was intended to be a modern, more aesthetically pleasing take on the sheds that currently occupy the city. Unlike the steel, aluminum, and wood of the original sidewalk shed, the Urban Umbrella is made from recycled steel and translucent plastic, and its underside has LED lighting instead of the normal light cages. As opposed to an opaque roof, the Urban Umbrella has a clear roof that allows light to pass through while still protecting from weather and debris.[33] A homeless encampment underneath an Urban Umbrella shed would have less privacy, but the same amount of protection from the rain and snow.

While sidewalk sheds do offer protection and shelter from the rain, there is a darker side to sidewalk shed usage that goes beyond it simply being dense and unsightly. Due to the lack of amenities for those who are mentally ill or live in poverty, sidewalk sheds often become a place where people go to the bathroom or partake in violent crimes such as robbery. At the corner of Lenox Avenue and 123rd Street in Harlem, a sidewalk shed had been up for over ten years. As of 2014, construction on the building to which it was attached had yet to be completed, and the shed remained up for safety reasons. As a result, the shed began to serve a secondary purpose as a hangout space: "a jungle gym for strapping men and a hideaway for drug deals. Evenings feature camaraderie among street friends, occasional outdoor sex and the usual neighborhood drama…it can sometimes escalate into brawls." Locals had been trying to get the shed removed, blaming the landlords and the government for the lack of progress on this front. Residents of this predominantly Black and Hispanic neighborhood argue that a sidewalk shed would never stand like this in a neighborhood with a White majority.[34]

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[33] Elstein, Aaron, "Let There Be Light."
[34] Mueller, "10 Years On."

The existence of the sidewalk shed also affects property values of adjacent buildings, as well as the popularity of local businesses.[35] "Sheds aren't just eyesores and claustrophobia triggers; they hurt some businesses by driving foot traffic across the street." 40% of restaurants have lost up to 50% of their revenue when covered by sheds."[36] In general, sidewalk sheds have a negative impact on the tenants and businesses whose facades they are blocking. Tourists are also unable to properly enjoy the tourist sites of the City because they have been covered by these notorious sheds.[37]

Proposed Design Intervention

In order to create a modular intervention, the sidewalk shed needs to be understood as a system. Sidewalk sheds are required to be constructed from steel or aluminum and wood. Steel columns are bolted into mud sills on the sidewalk. The columns are then braced horizontally and diagonally. Clamps are used to secure the columns to the steel beams, on top of which is a panel of corrugated steel and plywood planks. On the underside of the beams and panels, a row of electrical lighting is installed. Finally, connectors are used to attach the four-foot-tall plywood parapet, painted hunter green to demarcate the shed's front. Sidewalk sheds need to be a minimum of five feet wide to allow for ample foot traffic, as well as a minimum of eight feet tall. There can be no gap between the shed and the building to which it is adjacent.

My design proposes a modular system in which the shed becomes an occupiable space. The array of steel I-beams, corrugated steel, and wood planks are duplicated and offset

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[35] Ibid.
[36] Elstein, Aaron, "Let There Be Light."
[37] Dunlap, David W., "On the Sidewalks, Structures That Serve to Protect and Obscure," *The New York Times*, 27 August 2014, https://www.nytimes.com/2014/08/28/nyregion/sidewalk-sheds-serve-to-protect-and-obscure.html.

vertically, creating a floor and a ceiling. The plywood panel extends vertically to become a wall with insulation and an underlying structure. The front wall of the module has a window that can be opened to allow for ventilation. This module uses the same primary materials and structures as that of the original shed, with a few adjustments to account for increased loads and accessibility. For example, the steel columns each have a diameter of 8" and each cross-bracing member has a diameter of 5". Underneath each shed is seating to allow for further engagement with the community. Pedestrians can walk or sit underneath the shed, and people can occupy the space within the shed. The modules can be connected by their side walls.

Each module will have a rainwater harvesting system for plumbing. The planks on the rooftop are angled at a one-degree slope so that rainwater is directed toward the gutter that is placed along the edge of the building façade. This water then goes through the pipe along the side of the building and is stored in the water tank underneath the seating area. When needed, the water can be pumped up from the tank, through the pipes, up through the floor of the module, to appliances such as toilets, sinks, and showers.

The sidewalk shed module can support both public space and residential programs. One example of such public programs is an alternative vendor space for locals and small businesses. In New York City, sidewalks are home to vendors selling all types of goods, from clothing to books to artwork. At surface level, their work may not seem as important or as official as that of their corporate, white collar counterparts. In reality, these shopkeepers are among the most important contributors to City life. The vendor is a "public character," or anyone who is in constant contact with a lot of people.[38] This includes local shopkeepers. These characters are

[38] Mitchell Duneier, *Sidewalk*, (New York: Farrar, Straus and Giroux, 1999), 6.

trusted by other locals because they have eyes on the street.[39] As with many types of public space, the functionality of sidewalks involves bringing a bunch of strangers together.[40] Sidewalks can only exist successfully if the users of the sidewalk agree to mutually support one another. With an increased level of support, there is an increased level of safety.[41] Giving these vendors an elevated space in which they may distribute their items is an opportunity to elevate those who are often overlooked in society. Large windows on the sheds allow these vendors to continue to have eyes on the street.

While this design proposal is very much hypothetical, its existence could have some potential criticisms. According to the New York City Department of Transportation, property owners are responsible for maintaining and repairing all sections of the sidewalk that abut their property, from the property line to the curb. This includes pedestrian ramps for corner properties. The curb itself is maintained by the City of New York. This means that, were these sidewalk shelters to actually exist, they would be responsible for the repair and upkeep of the sheds that exist on the sidewalk adjacent to their property. Also, the shelters will have to be maintained in such a way that they are more than just sheds. This means that the sheds need to be properly insulated and aesthetically appealing. They must be safe, spacious, private, and comfortable. This intervention may be an adaptation of the sidewalk shed, but it needs to be a well-designed space that incorporates more than just the baseline elements of the original shed.

That being said, it is still important to rethink the sidewalk shed, as it this design intervention is part of a larger conversation about using scaffolding as an architectural opportunity to address societal needs. The design firm Framlab has attempted to address the

[39] Ibid, 8.
[40] Ibid, 119.
[41] Ibid, 8.

issue of homelessness in New York City by creating "Shelter with Dignity," or Homed. Ongoing since 2016, Homed is a single occupancy modular system that creates shelter from scaffolding. While most of the horizontal land in New York City has been occupied, Homed takes advantage of the unoccupied "vertical land," or blank building facades to which built space can be attached. Homed uses scaffolding as its framework and proposes that hexagon shaped modules be attached to the scaffold structure in order to create a vertical "micro-neighborhood" of structure.[42]

Each room, or module, can be occupied by a resident throughout the year. The exterior of the unit is made from steel and oxidized aluminum, while the interior is made from 3D printed plastic clad with wood laminate. The front face of the module is made of a smart glass that allows the occupant to see out while also allowing for the display of digital content on the glass itself. Though all of the modules have a general hexagonal shape, the 3D printing technique allows the modules to be custom-made according to needs and number of occupants. Furniture and cabinets can also be printed into the space. The system is meant to be quickly deployed in the same way that sidewalk sheds are quickly deployed as necessary.[43]

Framlab has the right idea by using the unsightly scaffolding in New York City as an opportunity to create more occupiable space, specifically to address what has become a major problem in the City over the last few decades. Every human being should have access to basic necessities, including food, clean water, clean air, clothing, and shelter. The homeless people who are made to sleep on benches or sidewalks are not lazy or criminal as many members of the upper and middle class seem to believe, but rather victims of a system that has deeply failed

[42] "Shelter with Dignity," *Framlab.*
[43] Ibid.

them. There is a clear answer here: increase the minimum wage to a livable one and create more affordable housing. One way of doing the latter is to create more occupiable space, and one way of creating more occupiable space is by expanding upon construction that already exists and does not seem to be going away anytime soon. For decades, the sidewalk shed has protected New Yorkers, and now, it can engage them further.

Works Cited

"Active Sidewalk Shed Permits as of 10/7/2019." NYC DOB | Sidewalk Sheds. https://www1.nyc.gov/assets/buildings/html/sidewalk-shed-map.html.

Coalition for the Homeless. https://www.coalitionforthehomeless.org.html.

Cuozzo, Steve. "The irony of the Homeless Coalition's scaffolding." *New York Post*. 8 December 2019. https://nypost.com/2019/12/08/the-irony-of-the-homeless-coalitions-scaffolding.html.

Duneier, Mitchell. *Sidewalk*. New York: Farrar, Straus and Giroux, 1999.

Dunlap, David W. "On the Sidewalks, Structures That Serve to Protect and Obscure." *The New York Times*. 27 August 2014. https://www.nytimes.com/2014/08/28/nyregion/sidewalk-sheds-serve-to-protect-and-obscure.html.

Dunlap, David. "When Scaffolding Covers a Cityscape." *The New York Times*. 22 September 1996. https://www.nytimes.com/1996/09/22/realestate/when-scaffolding-covers-a-cityscape.html.

Elstein, Aaron. "Let There Be Light." *Crain's New York Business*. 9-22 July 2018.

Gray, Christopher. "A Law and the Face of the City." *The New York Times*. 24 April 2014. https://www.nytimes.com/2014/04/27/realestate/a-law-and-the-face-of-the-city.html?module=inline.html.

Lavacca, Katherine and Bruce Golding. "Homeless set up shantytown under Times Square Scaffolding." *New York Post*. 25 November 2018. https://nypost.com/2018/11/25/homeless-set-up-shanty-town-under-times-square-scaffolding.html.

Marino, Joe, Gina Daidone, and Bruce Golding. "Vagrants living under scaffolding are turning NoHo into Skid Row." *New York Post*. 6 September 2016. https://nypost.com/2016/09/06/vagrants-living-under-scaffolding-are-turning-noho-into-skid-row.html.

Migdal, Sylvan. "Sidewalk-shed shantytown: Ancient scaffolding hosts homeless in Fidi. *The Villager*. 8 March 2016. https://www.thevillager.com/2016/03/sidewalk-shed-shantytown-ancient-scaffolding-hosts-homeless-in-fidi.html.

Mueller, Benjamin, "10 Years On, Scaffolding in Harlem is Still a Shelter for Noxious Acts," *The New York Times*, 2 September 2014, https://www.nytimes.com/2014/09/03/nyregion/a-decade-on-a-sidewalk-shed-is-still-an-unwanted-shelter.html.

"New York Urbanized Area: Population & Density from 1800 (Provisional)." *Demographia*. http://www.demographia.com/db-nyuza1800.html.

Petty, James. "The London Spikes Controversy: Homelessness. Urban Securitization and the Question of 'Hostile Architecture." *International Journal for Crime, Justice, and Social Democracy*.

Purser, Gretchen. "Banished: The New Social Control in Urban America – By Katherine Beckett and Steve Herbert. ijurr. 2 May 2012. https://doi.org/10.1111/j.1468-2427.2012.01130_2.x.

"Schaustelle / J. Mayer H. Architects, " 28 Aug 2013, ArchDaily, https://www.archdaily.com/420787/schaustelle-j-mayer-h-architects.html.

Sharma, Sarah. *In the Meantime: Temporality and Cultural Politics.* Duke University Press, 2014.

"Shelter with Dignity." *Framlab*. 2016. https://www.framlab.com/homed.html.

StreetEasy Team. "Why Is There So Much Scaffolding in NYC?" *One Block Over*. 5 June 2018. https://streeteasy.com/blog/scaffolding-nyc-why-so-much-scaffolding-new-york-city.html.

"The 100 Year Anniversary of the Consolidation of the 5 Boroughs into New York City."

Centennial Classroom. https://web.archive.org/web/20071011221627/http://nyc.gov/html/nyc100/html/classroom/hist_info/100aniv.html.

"The Oldest Sidewalk Scaffold in New York City Tells All: WNYC: New York Publication Radio, Podcasts, Live Streaming Radio, News." WNYC. 2019 New York Public Radio. 12 April 2018. https://www.wnyc.org/story/visit-oldest-sidewalk-scaffold-new-york-city.html.

"Why would a homeless person not want to go to a shelter?" *BRC*. https://www.brc.org/why would-homeless-person-not-want-go-shelter.html.

Appendix

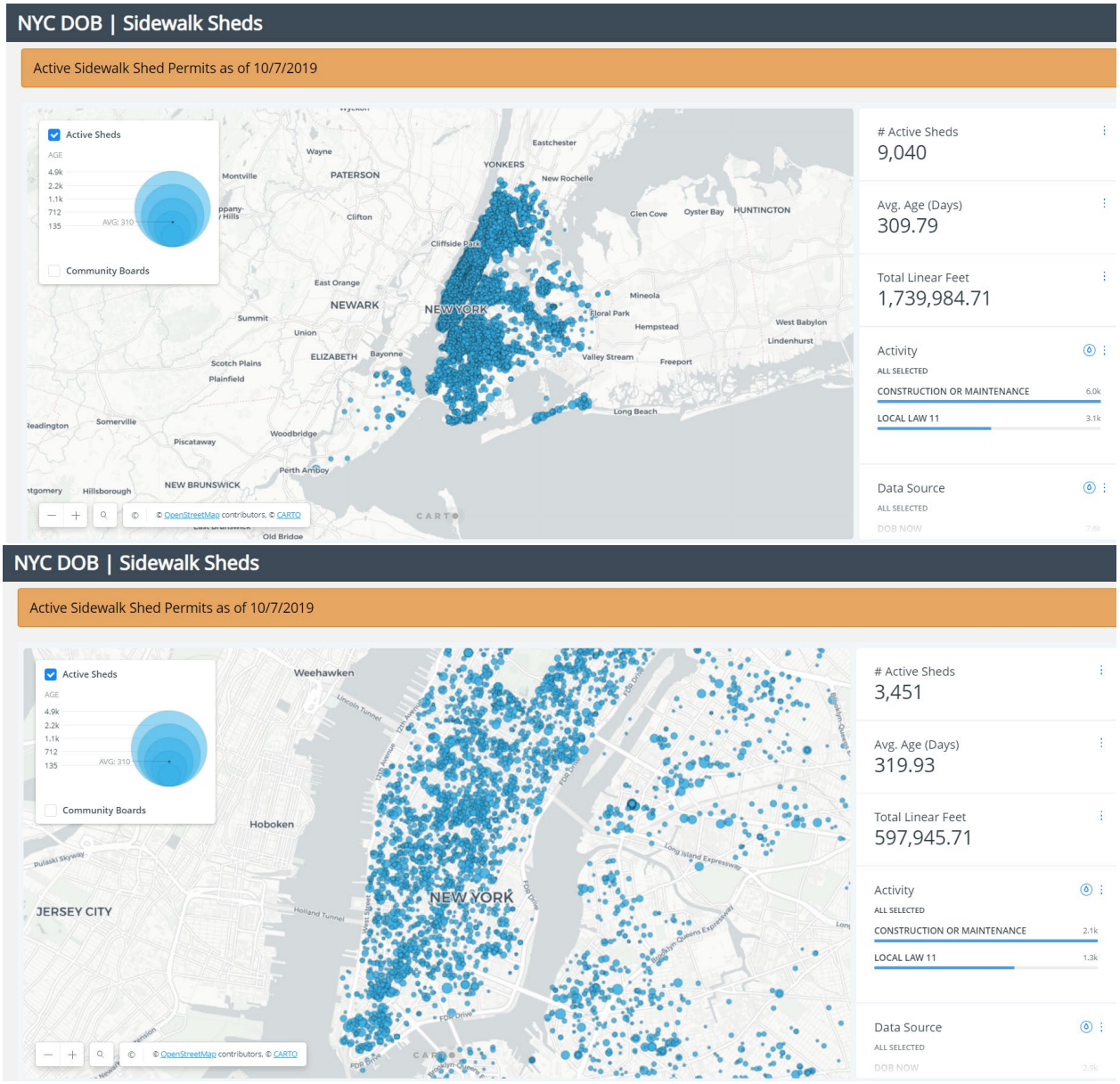

Fig. 1 Interactive Map Showing the Active Sidewalk Sheds in New York City. Updated Daily.
© CITY OF NEW YORK. Active Sidewalk Shed Permits as of 10/7/2019. Interactive Map. NYC DOB | Sidewalk Sheds. 7 October 2019. https://www1.nyc.gov/assets/buildings/html/sidewalk-shed-map.html.

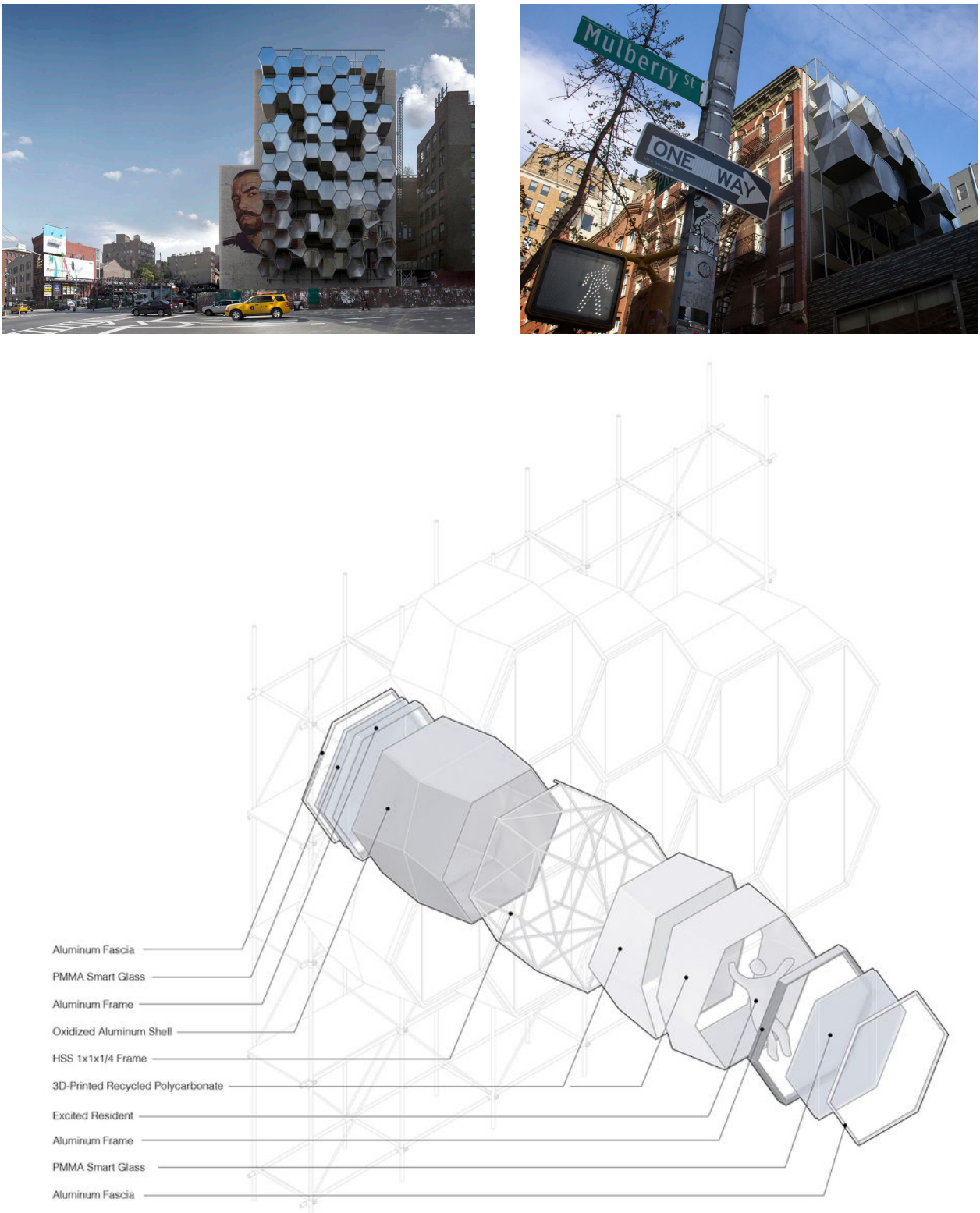

Fig. 2 “Homed.” Framlab, https://www.framlab.com/homed.

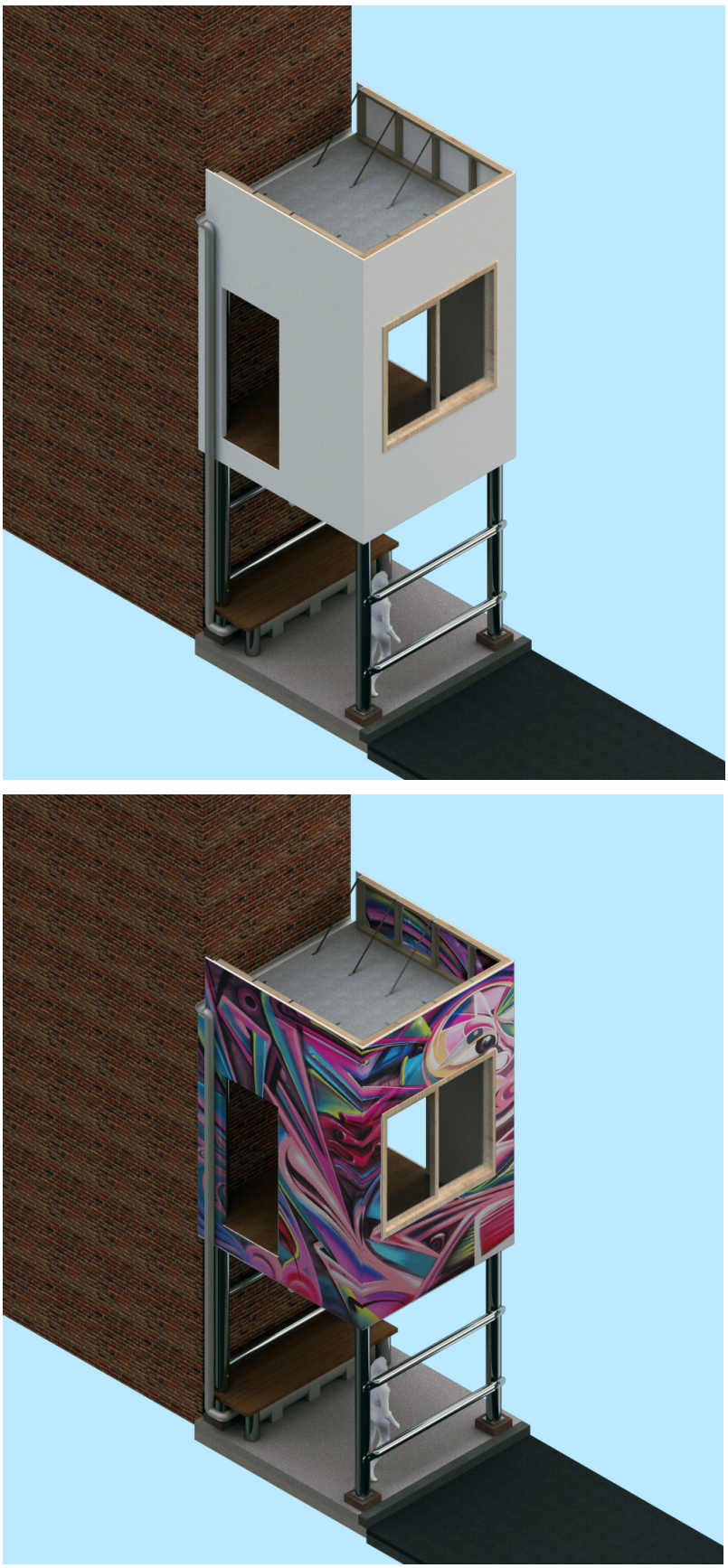

Fig. 3 Repurposed Sidewalk Shed Module. Design and drawings by Sukhmann Aneja.

Fig. 4 Repurposed Sidewalk Shed Modules in Context (54 Franklin St, New York City). Design and drawings by Sukhmann Aneja.